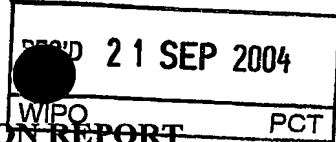


PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT



(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SHW:RMH:FP17979	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International Application No. PCT/AU2003/000697	International Filing Date <i>(day/month/year)</i> 4 June 2003	Priority Date <i>(day/month/year)</i> 7 June 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ B65D 33/34, 33/04, 81/05, 25/10, 21/032; B65G 47/00; G01M 3/38		
Applicant PAK TECHNOLOGIES GROUP PTY LTD et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of **7** sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 6 January 2004	Date of completion of the report 14 September 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer KAREN VIOLANTE Telephone No. (02) 6283 7933

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be nonobvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos: **23-27 and 73-92**

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claim Nos. **23-27 and 73-92**

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☒ restricted the claims.
- ☒ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Examining Authority has found that there are different inventions as follows:

1. Claims 1-7 are directed to a flexible pouch. It is considered that the transparent region in at least one of the front and rear panels comprises a first "special technical feature".
2. Claims 8-22 are directed to container for receiving and supporting flexible pouches. It is considered that the container body having an open top and an open bottom wherein two like said containers are able to be stacked one above the other comprises a second "special technical feature".
3. Claims 23-27 are directed to a pallet for receiving plurality of containers. It is considered that the plurality of locator elements on the pallet body comprises a third "special technical feature".
4. Claims 28-59 are directed to a packaging system plant and a method of manoeuvring pouches in the plant. It is considered that the elements of the packaging system plant comprise a fourth "special technical feature".
5. Claims 60-72 are directed to a system for handling containers which are to be loaded with pouches. It is considered that the elements of the system comprise a fifth "special technical feature".
6. Claims 73-92 are directed to a pallet handling apparatus. It is considered that the pallet handling apparatus elements comprise a sixth "special technical feature".
7. Claims 93-111 are directed to a filling and heat sealing line and a seal integrity monitoring system. It is considered that the vision system comprises a seventh "special technical feature".

Since the above mentioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-22, 28-72 and 93-111

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 8-22 and 93-111	YES
	Claims 1-7 and 28-72	NO
Inventive step (IS)	Claims 8-22	YES
	Claims 1-7, 28-72 and 93-111	NO
Industrial applicability (IA)	Claims 1-22, 28-72 and 93-111	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)**NOVELTY:****Claims 1-7:**

- ◆ US 4186786 A
- ◆ US 4838708 A
- ◆ WO 91/18377 A and
- ◆ EP 491099 A

The claimed invention lacks novelty in view of a large number of documents. The art is replete with suggestions and disclosures of a flexible pouch as presently defined. The above documents are provided as examples chosen from many in a well-traversed art.

For example US 4838708 A discloses a flexible pouch (10) comprising a front panel, a rear panel; the front (12) and rear (14) panels being joined along opposite side edges; a closed base (15); an open end (20) opposite the base (15) through which a product can be loaded and which is to be closed by a seal (38, 48) which joins the front (12) and rear (14) panels together; and a transparent region (see column 6, lines 24-33) in at least one of the front and rear panels at which the seal is to be formed to facilitate inspection of the seal to determine the integrity of the heat seal.

Claims 28-59:

The invention defined in claims 28-59 lack novelty in view of EP 75531 A. For example EP 75531 A discloses a packaging plant, including: a filling and heat sealing line (01) filling pouches with a product and sealing the filled pouches; a container (04) for receiving filled and sealed pouches from the line, and for supporting a plurality of the pouches; a transporter (03) for receiving the containers loaded with the pouches to form a stack (06) of the containers, and for enabling the stack of containers to be moved from one place to another; an ancillary processing station (010) for receiving the containers transported by the transporter and for performing ancillary treatment step on the filled pouches while housed in the stack of containers; and a packaging station (012) for receiving the transporter carrying the stack of containers to enable the pouches to be removed from the containers and packaged for distribution.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V**Claims 60-72**

The invention defined in claims 60-72 lack novelty in view of DE 4103538 C. For example DE 4103538 C discloses a system for handling containers which are going to be loaded with pouches including; a carriage for receiving an empty container (K1); first carriage moving means (27); loading means (7) for loading the container into the carriage (pellet), indexing means for indexing the container past a loading station (7) at which filled and sealed pouches are loaded into the container; a second carriage moving means and unloading means (48) for moving the loaded container from the second carriage (11, 12) and stacking the loaded container on a pallet. (See in particular the Abstract).

Claims 8-22 and 93-111:

The inventions defined in claims 8-22 and 93-111 are novel.

INVENTIVE STEP (IS):**Claims 1-7 and 28-72:**

Because the subject matter of all the claims is totally disclosed by the documents cited under "novelty", the subject matter is considered to be obvious in view of those documents.

Claims 8-22:

The invention defined in claims 8-22 involves an inventive step as all the documents were "A" category citations.

Claims 60-72:

US 4316693 A discloses a system for handling containers which are going to be loaded with pouches including; a carriage for receiving an empty container; first carriage moving means; loading means for loading the container into the carriage and indexing means for indexing the container past a loading station at which filled and sealed pouches are loaded into the container. However, it does not disclose following features: a second carriage moving means and unloading means for moving the loaded container from the second carriage and stacking the loaded container on a pallet. But, these missing features are disclosed by SU 1273317 A.

Therefore, when combined, as would be obvious to a person skilled in the art, both citations disclose all of the features of the claims.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V**Claims 93-111:**

EP 75531 A discloses a filling and heat sealing line for filling pouches with product, comprising; a filling station; a heat sealing station; moving means for moving pouches from the filling station to the heat sealing station. However, it does not disclose following features: a vision system including a light source for producing light so that the light is transmitted through a transparent region on one side of the sealed pouch which overlaps a heat seal produced by the heat sealing station; at least one camera; and a processing means for determining from the light received by the camera the integrity of the seal to determine whether the pouch should or should not be rejected.

But, these missing features are disclosed by all the following documents JP 2000346814 A, JP 07318514 A, JP 09156604 A and US 5260766 A.

Therefore, when combined, as would be obvious to a person skilled in the art, the citations disclose all of the features of the claims.

INDUSTRIAL APPLICABILITY:

Claims 1-22, 28-72 and 93-111 have industrial applicability.

10/516409

INTERNATIONAL SEARCH REPORT

National application No.

PCT/AU03/00697

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: B65D 33/34, 33/04, 81/05, 25/10, 21/032; B65B 1/04, 3/04, 5/08; B65G 47/00, G01M 3/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: IPC B65D; B65B; B65G; G01M 3/-; G01N 21/- & keywords: (window, transparent, seal, inspect, fault, light, filter, locator, separate, stack, pin, drain, fill, transport, handle, treat, cool, package, line, plant, carriage, index, pallet, load, unload, camera, heat) and similar terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4186786 A (KIRKPATRICK) 5 February 1980 Whole document	1-7
X	US 4838708 A (HOLCOMB ET AL) 13 June 1989 Whole document	1-7
X	WO 91/18377 A (AMBLEHURST LIMITED) 28 November 1991 Whole document	1-7

☒ Further documents are listed in the continuation of Box C☒ See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
5 August 2003Date of mailing of the international search report
29 AUG 2003

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0491099 B1 (THE KENDALL COMPANY) 28 August 1996 Whole document	1-7
A	Derwent Abstract Accession No 93-358901/45, Class Q32, SU 1772559 A1 (LUGAN MECH ENG DES TECHN INST) 30 October 1992 Abstract	8-22
A	Derwent Abstract Accession No 2002-326767/36, Class A92, KR 2001096178 A (WANG) 7 November 2001 Abstract	8-22
X	EP 0075531 A2 (MITSUBISHI JUKOGYO KK) 30 March 1983 Whole document	28-59
Y		93-111
A	EP 0411769 B1 (FMC CORPORATION) 2 March 1994 Whole document	28-59
X	DE 4103538 C1 (MULLER) 30 July 1992 Whole document	60-72
Y	Derwent Abstract Accession No 87-197664/28, Class Q35, SU 1273317 A (MINSK HABERDASH FUR) 30 November 1986 Abstract	60-72
Y	US 4316693 A (BAXTER ET AL) 23 February 1982 Whole document	60-72
A	WO 01/58789 A1 (GESTION LAFOREST INC) 16 August 2001 Whole document	60-72
Y	Derwent Abstract Accession No. 2001-129923/14, Class Q65, S02, JP 2000346814 A (UCHIYAMA KOGYO KK) 15 December 2000 See abstract and figure	93-111

C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Derwent Abstract Accession No. 96-061787/07, Class S02, S03, JP 07318514 A (MITSUBISHI JUKOGYO KK) 8 December 1995 See abstract and figure	93-111
Y	Derwent Abstract Accession No. 97-368890/34, Class Q31, JP 09156604 A (NIPPON TOKKYO KANRI CO LTD) 17 June 1997 See abstract and figure	93-111
Y	US 5260766 A (ARMITAGE) 9 November 1993 Whole document	93-111

Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos :
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See attached sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

Claims 1-22, 28-72 and 93-111
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No II: Lack of Unity

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-7 are directed to a flexible pouch. It is considered that the transparent region in at least one of the front and rear panels comprises a first "special technical feature".
2. Claims 8-22 are directed to container for receiving and supporting flexible pouches. It is considered that the container body having an open top and an open bottom wherein two like said containers are able to be stacked one above the other comprises a second "special technical feature".
3. Claims 23-27 are directed to a pallet for receiving plurality of containers. It is considered that the plurality of locator elements on the pallet body comprises a third "special technical feature".
4. Claims 28-59 are directed to a packaging system plant and a method of manoeuvring pouches in the plant. It is considered that the elements of the packaging system plant comprise a fourth "special technical feature".
5. Claims 60-72 are directed to a system for handling containers which are to be loaded with pouches. It is considered that the elements of the system comprise a fifth "special technical feature".
6. Claims 73-92 are directed to a pallet handling apparatus. It is considered that the pallet handling apparatus elements comprise a sixth "special technical feature".
7. Claims 93-111 are directed to a filling and heat sealing line and a seal integrity monitoring system. It is considered that the vision system comprises a seventh "special technical feature".

Since the above mentioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.

Furthermore, the groups of claims have distinct classifications under the IPC and therefore it is considered that because of these distinct classifications, these inventions could not be searched without involving significant extra effort.

Information on patent family members

PCT/AU03/00697

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
US	4186786	AU	51220/79	BE	879093	CA	1121770
		CH	635235	DE	2938083	DK	4088/79
		DK	2927/84	FI	792971	FR	2437354
		GB	2031377	IT	1120596	JP	55048054
		MX	151440	NL	797248	NO	793126
		NZ	191702	NZ	196949	SE	7908067
		SE	8500135	US	4285105	CA	1133438
		DK	2927/84				
US	4838708	AU	33520/89	AU	52485/93	BR	8907303
		CA	1331166	EP	403532	WO	8908586
		US	4937040				
WO	91/18377 A	EP	530267	GB	9011457	GB	9221379
		GB	2260514	US	5319475		
EP	491099		NONE				
SU	1772559		NONE				
KR	2001096178		NONE				
EP	75531	CA	1201995	JP	58052023	US	4525978
		JP	58039591				
EP	411769	GB	2234483	GB	9014948	GB	8917810
		US	5020303				
DE	4103538		NONE				
SU	1273317		NONE				
US	4316693	CA	1140952				
WO	01/58789	AU	33531/01	US	2002085903	EP	1028085
JP	2000346814		NONE				
JP	07318514		NONE				
JP	09156604		NONE				
US	5260766		NONE				